WHAT IS CLAIMED IS:

1. A signal processing apparatus, comprising:

a first circuit having an output terminal, the first circuit configured to receive a first signal from a modem, the first signal comprising a first frequency band and pass a component of the first signal having a higher frequency than a first predetermined frequency; and

a second circuit having an output terminal, the second circuit configured to receive a second signal comprising a second frequency band overlapping with at least a portion of the first frequency band, the second circuit configured to pass a component of the second signal having a lower frequency than a second predetermined frequency;

wherein the output terminal of the first circuit is connected to the output terminal of the second circuit.

2. A signal processing apparatus for use in telecommunication over a transmission line, the apparatus comprising:

a first circuit having an output terminal, the first circuit configured to receive a first signal from a modem, the first signal comprising a first frequency band and pass a component of the first signal having a higher frequency than a first predetermined frequency, the output terminal adapted to transmit an output signal of the first circuit over the transmission line; and

a second circuit having an output terminal, the second circuit configured to receive a second signal comprising a second frequency band overlapping with at least a portion of the first frequency band, the second circuit configured to pass a component of the second signal having a lower frequency than a second predetermined frequency;

wherein the output terminal of the first circuit is connected to the output terminal of the second circuit.

3. The apparatus of Claim 2, further comprising a modem and wherein the output of the modem is connected to the first circuit.

4. The apparatus of Claim 3, wherein the modem comprises a Symmetric Digital Subscriber Line modem.

5. The apparatus of Claim 3, wherein the first circuit is incorporated into the modem

6. The apparatus of Claim 5, wherein the first circuit comprises a line transformer that has an air gap.

7. The apparatus of Claim 6, wherein the size of the air gap is 0.01-1 mm.

8. The apparatus of Claim 6, wherein the line transformer has a capacitor whose capacitance is 0.1 μF-0.001 μF.

9. The apparatus of Claim 2, wherein the first predetermined frequency is between 2 kHz and 50 kHz.

10. The apparatus of Claim 2, wherein the first circuit is configured to substantially reduce power of the component of the first signal sufficient to avoid interference with the second signal.

11. The apparatus of Claim 10, wherein the first circuit is configured to reduce power of a component of the first signal having a frequency range of 2 – 50 kHz to an amount of 3 – 80 dB.

12. The apparatus of Claim 10, wherein the first circuit is configured to reduce power of a component of the first signal having a frequency range of 3.4 – 20 kHz to an amount of 10 – 70 dB.

13. The apparatus of Claim 10, wherein the first circuit is configured to reduce power of a component of the first signal having a frequency range of 5 – 10 kHz to an amount of 20 – 70 dB.

14. The apparatus of Claim 2, wherein the first circuit is configured to cut off substantially power of all voice frequencies of the first signal.

15. The apparatus of Claim 2, wherein the first circuit comprises a High Pass Filter.

16. The apparatus of Claim 2, wherein the second predetermined frequency is between 2 kHz and 20 kHz.

17. The apparatus of Claim 2, wherein the second circuit is configured to substantially reduce power of the component of the second signal sufficient to avoid interference with the first signal.

18. The apparatus of Claim 17, wherein the second circuit is configured to reduce power of a component of the second signal having a frequency range of 2 – 20 kHz to an amount of 1 – 30 dB.

19. The apparatus of Claim 17, wherein the second circuit is configured to reduce power of a component of the second signal having a frequency range of 3.4 – 15 kHz to an amount of 3 – 30 dB.

20. The apparatus of Claim 17, wherein the first circuit is configured to reduce power of a component of the second signal having a frequency range of 5 – 10 kHz to an amount of 10 – 30 dB.

21. The apparatus of Claim 2, wherein the second circuit is configured to cut off power of a component of the second signal higher than the second predetermined frequency.

22. The apparatus of Claim 2, wherein the second circuit is configured to cut off substantially power of all non-voice frequencies of the second signal.

23. The apparatus of Claim 2, wherein the first predetermined frequency is the same as the second predetermined frequency.

24. The apparatus of Claim 2, further comprising a modem and wherein the first and second circuits are incorporated into the modem.

25. The apparatus of Claim 24, wherein the output terminals of the first and second circuits are connected outside the modem.

26. The apparatus of Claim 24, wherein the modem comprises a Symmetric Digital Subscriber Line modem.

27. The apparatus of Claim 2, wherein the second circuit comprises a Low Pass Filter.

28. The apparatus of Claim 2, wherein the second circuit comprises a splitter.

29. The apparatus of Claim 2, wherein the apparatus is configured to support a communication speed faster than a predetermined speed.

30. The apparatus of Claim 2, wherein the predetermined speed is 1 MHz.

31. The apparatus of Claim 2, wherein the first circuit is directly connected to the second circuit.

32. A method of processing data and voice signals for transmitting via a transmission line, the method comprising:

receiving a data signal comprising a first frequency band;

receiving a voice signal comprising a second frequency band overlapping with at least a portion of the first frequency band;

passing a component of the data signal, the component having a higher frequency than a first predetermined frequency;

passing a component of the voice signal, the component having a lower frequency than a second predetermined frequency; and

combining the components of the data and voice signals onto the transmission line.

33. The method of Claim 32, further comprising receiving a signal having a voice component and a data component from the transmission line, cutting off the voice component, and outputting the data component to a computing device.

34. The method of Claim 32, further comprising receiving a signal having a voice component and a data component from the transmission line, cutting off the data component , and outputting the voice component to a telephone.

35. The method of Claim 32, further comprising receiving a signal having a voice component and a data component from the transmission line, cutting off the voice component, and outputting the data component to an information network.

36. The method of Claim 32, further comprising receiving a signal having a voice component and a data component from the transmission line, cutting off the data component, and outputting the voice component to a Public Switched Telephone Network (PSTN).

37. The method of Claim 32, wherein the first predetermined frequency is between 3.4 kHz and 20 kHz.

38. The method of Claim 32, wherein the passing the first component comprises reducing power of a component of the data signal sufficient to avoid interference with the second signal.

39. The method of Claim 32, wherein the passing the first component comprises reducing power of a component of the data signal having a frequency range of 2 – 50 kHz to an amount of 3 – 80 dB.

40. The method of Claim 32, wherein the passing the first component comprises reducing power of a component of the data signal having a frequency range of 3.4 – 20 kHz to an amount of 10 – 70 dB.

41. The method of Claim 32, wherein the passing the first component comprises reducing power of a component of the data signal having a frequency range of 5 – 10 kHz to an amount of 20 – 70 dB.

42. The method of Claim 32, wherein the passing the first component comprises cutting off a component of the data signal lower than the first predetermined frequency.

43. The method of Claim 32, wherein the passing the second component comprises reducing power of a component of the voice signal sufficient to avoid interference with the data signal.

44. The method of Claim 43, wherein the passing the second component comprises reducing power of a component of the voice signal having a frequency range of 2 – 20 kHz to an amount of 1 – 30 dB.

45. The method of Claim 43, wherein the passing the second component comprises reducing power of a component of the voice signal having a frequency range of 3.4 – 15 kHz to an amount of 3 – 30 dB.

46. The method of Claim 43, wherein the passing the second component comprises reducing power of a component of the voice signal having a frequency range of 5 – 10 kHz to an amount of 10 – 30 dB.

47. The method of Claim 32, wherein the passing the second component comprises cutting off a component of the voice signal higher than the second predetermined frequency.

48. The communication system, comprising:

a transmission line having first and second terminals;

a first terminal device connected to the first terminal of the transmission line; and

a second terminal device connected to the second terminal of the transmission line;

wherein the first terminal device comprises first and second circuits,

wherein the first circuit has an output terminal, is configured to receive a first signal comprising a first frequency band and pass a component of the first signal having a higher frequency than a first predetermined frequency;

and wherein the second circuit has an output terminal, and is configured to receive a second signal comprising a second frequency band overlapping with at least a portion of the first frequency band, and to pass a component of the second signal having a lower frequency than a second predetermined frequency.

49. The communication system of Claim 48, wherein the second terminal device comprises a first circuit and a second circuit,

wherein the first circuit has an output terminal, and is configured to receive a first signal comprising a first frequency band and pass a component of the first signal having a higher frequency than a first predetermined frequency,

wherein the second circuit has an output terminal, is configured to receive a second signal comprising a second frequency band overlapping with at least a portion of the first frequency band, and to pass a component of the second signal having a lower frequency than a second predetermined frequency,

and wherein the output terminal of the first circuit is connected to the output terminal of the second circuit.

50. The communication system of Claim 48, wherein the first circuit is configured to substantially reduce power of the component of the first signal sufficient to avoid interference with the component of the second circuit.

51. The communication system of Claim 48, wherein the first circuit is configured to reduce power of a component of the first signal having a frequency range of 2 – 50 kHz to an amount of 3 – 80 dB.

52. The communication system of Claim 48, wherein the first circuit is configured to reduce power of a component of the first signal having a frequency range of 3.4 – 20 kHz to an amount of 10 – 70 dB.

53. The communication system of Claim 48, wherein the first circuit is configured to reduce power of a component of the first signal having a frequency range of 5 – 10 kHz to an amount of 20 – 70 dB.

54. A communication method in a communication system including a transmission line having first and second terminals, a first terminal device connected to the first terminal of the transmission line and a second terminal device connected to the second terminal of the transmission line, the method comprising:

receiving a first signal comprising a first frequency band;

receiving a second signal comprising a second frequency band overlapping with at least a portion of the first frequency band;

passing a component of the first signal, the component having a higher frequency than a first predetermined frequency;

passing a component of the second signal, the component having a lower frequency than a second predetermined frequency;

combining the components of the first and second signal; and

transmitting the combined components to the one of the first and second terminal devices through the transmission line.